4. The method of claim 1, further comprising creating a communication control block for a connection including said packet, and matching said summary with said communication control block, for sending said data to said destination.

5. The method of claim 1, further comprising creating a communication control block for a connection including said packet, wherein sending said data to said destination includes guiding said data by said communication control block.

6. The method of claim 8, further comprising transmitting a second message packet from said host to said network by referencing said communication control block.

7. A method for processing communication between a network and a host having a sequential protocol processing stack, the method comprising:

providing a device including a communication processor, said device being connected to said host and said network,

receiving a message frame from said network by said host, said frame including data and a series of headers corresponding to said sequential protocol processing stack,

analyzing said series of headers as a stream of bytes by said device, including processing said headers without copying said data, thereby creating a summary of said frame.

8. The method of claim 7, further comprising selecting, based upon said processing, whether to process said packet by said stack or to send said data to a destination according to said summary.

9. The method of claim 7, further comprising:

creating, by said host, a communication control block for a message including said frame,

storing said communication control block in said device, and

guiding said data to a destination denoted by said communication control block.

10. The method of claim 9, further comprising comparing said summary with said communication control block, prior to guiding said data to said destination.

11. The method of claim 7, further comprising:

receiving a second message frame from said network by said host, and

processing said second message frame by said sequential processing stack.

12. The method of claim 7, further comprising:

transmitting, via said device, transmission data from said host to said network, including simultaneously prepending several protocol headers to said transmission data for network transfer to a remote host.

13. A method for communication between a network and a host computer having a processor and a sequential stack of protocol layers, the method comprising:

receiving, by said host from said network, a message having multiple packets, each of said packets including a data portion and an associated sequence of headers which include information corresponding to said sequential stack of protocol layers and indicate an upper layer destination in said host for said data, and

sending a plurality of said data portions to said destination without said associated headers and without generating an interrupt to any host CPU.

14. The method of claim 13, further comprising choosing whether to process said packets by said stack of protocol layers, prior to sending said data portions to said destination.

15. The method of claim 13, further comprising summarizing said headers with a protocol processing device, prior to sending said data portions to said destination without said headers.

16. The method of claim 13, wherein said sending includes moving said data portions with DMA units controlled by said processor.

17. The method of claim 13, further comprising transmitting a data file from said host to said network, including dividing said data file into a series of data units, prepending headers to said data units and thereby creating a series of network frames, and placing said network frames on said network without generating an interrupt to any host CPU.

18. A method for communication between a host computer and a network, the host computer having a CPU, a storage unit and a sequential stack of protocol layers, the method comprising:

providing a device connected to said network and said host, said device having a processor,

receiving by said device a first message from said network,

processing said first message, including creating a communication control block for said first message,

receiving by said device a second message from said network, said second message including data and a header, said header including a series of protocol layer headers,

processing said header by said device, including generating a summary of said header, without copying said data during said processing of said header, and

sending said data by said device to an upper layer of said protocol layers in a form suitable for said upper layer, including guiding said sending with said communication control block.

19. The method of claim 18, further comprising receiving by said device a third message relating to said first and second messages, and passing said communication control block from said device to said storage unit, thereby passing control of processing said third message to said CPU.

20. The method of claim 18, further comprising identifying said second message as a fast-path candidate, prior to sending said data to said upper layer.

21. The method of claim 18, further comprising matching said summary with said communication control block, prior to sending said data to said upper layer.

22. The method of claim 18, wherein sending said data to said upper layer includes moving said data by direct memory access.

22. The method of claim 18, further comprising transmitting from said host to said network a third message, including sending said third message via said device by referencing said communication control block and prepending a transmission header to data acquired from a host source, said transmission header including a plurality of protocol layer headers.

23. A method for communication between a local host and a remote host connected by a network, with the local host having a protocol processing stack and an associated protocol processing device, the method comprising:

creating, by the protocol processing stack, a communication control block defining a connection between the local host and the remote host,

passing said communication control block to the device, such that a message packet transferred between the network and the local host and associated with said connection is generally processed by the device instead of by the protocol processing stack.

24. The method of claim 23, further comprising passing said communication control block back to the local host, such that a second message packet transferred between the network and the local host and associated with said connection is generally processed by the protocol processing stack.

25. The method of claim 24, wherein said message packet and said second message packets are contained in a message transferred between the network and the local host.

26. The method of claim 24, wherein said message packet is part of a first message transferred between the network and the local host and said second message packet is part of a second message transferred between the network and the local host.

27. The method of claim 23, further comprising:

receiving, by the device, a second message packet from the network, and

summarizing, by the device, said second message packet, thereby generating a summary of said second message packet, and

comparing said summary with said communication control block.

28. The method of claim 23, further comprising:

transmitting, by the device, a second message packet to the network, including forming a header based upon said communication control block and prepending said header to said second message packet.

29. A method for network communication by a host computer having a processor, a memory and a sequential stack of protocol layers, the method comprising:

receiving by the host from the network a packet including data and a plurality of headers relating to the stack of protocol layers, said data having a destination in said host,

categorizing said packet with a hardware logic sequencer, including classifying said headers and creating a summary of said packet, and

choosing, based upon said summary, whether to send said packet to said stack of protocol layers or to bypass said stack of protocol layers by sending said data to said destination.

30. The method of claim 29, wherein said packet is a part of a message having a plurality of packets, and further comprising:

receiving by said host from said network a second packet of said message, said second packet including additional data and additional headers,

categorizing said second packet with said hardware logic sequencer, including classifying said additional headers and creating a second packet summary,

choosing, based upon said second packet summary, whether to send said second packet to said stack of protocol layers or to bypass said stack of protocol layers and send said additional data to said destination, whereby only one of said first and second packets is sent to said stack of protocol layers.

31. The method of claim 29, further comprising:

sending said packet to said stack of protocol layers,

processing said packet with said stack of protocol layers and thereby creating a context for said message,

receiving by said host from said network a related packet including additional data and additional headers, and

employing said context for sending said related packet to said destination.

32. The method of claim 29, further comprising creating a context for a message including said packet, said context defining a connection between said host and a remote host, wherein choosing whether to send said packet to said stack of protocol layers or to bypass said stack of protocol layers includes comparing said summary with said context.

33. The method of claim 29, further comprising bypassing said stack of protocol layers by sending said data to said destination in a form suitable for said destination.

34. The method of claim 29, further comprising

sending said packet to said stack of protocol layers,

processing said packet with said stack of protocol layers and thereby creating a context for said message, and

employing said context for transmitting a reply to said network from said application space, including prepending a transmission header to reply data, said transmission header including control information regarding each of said protocol layers.

35. A network communication processing method for a host computer having a CPU with a sequential protocol stack, the method comprising:

providing a second protocol stack to said CPU, said second protocol stack supporting an upper layer protocol supported by said first protocol stack,

receiving by said host a first portion of a message,

categorizing said first portion by said host,

selecting, based upon said categorizing of said first portion, to process said first portion by said second protocol stack,

receiving by said host a second portion of said message,

categorizing said second portion by said host, and

selecting, based upon said categorizing of said second portion, to process said second portion by said sequential protocol stack.

36. The method of claim 35, further comprising processing, by said second stack, said first portion and thereby creating a communication control block for a connection including said message.

37. The method of claim 35, further comprising

providing a network processor, and

passing said communication control block to said network processor, including passing command of said message to said processor.

38. The method of claim 37, further comprising passing said communication control block from said network processor to said CPU, including passing command of said message to said CPU.

39. The method of claim 35, further comprising providing a memory logically adjacent to said network processor, and caching said communication control block in said memory.

40. A method for processing communication between network hosts, the method comprising:

creating a context of control instructions representing a connection between a source in a first host and a destination in a second host,

providing, at said first host, data for transmission from said source to said destination,

forming, based upon said context, a header including control instructions for several protocol layers,

prepending said header to said data, thereby creating a message packet, and

sending said message packet to said second host.

41. The method of claim 40, further comprising providing a processor devoted primarily to communication processing, wherein forming said header is performed by said processor.

42. The method of claim 40, further comprising providing a storage unit and a direct memory access unit adjacent to said host, and moving said data from said source to said storage unit by said direct memory access unit, prior to prepending said header to said data.

43. The method of claim 40, further comprising configuring in said first host a protocol driver for creating said context, and diverting said data by said protocol driver to a processor for prepending said header to said data.

44. The method of claim 40, further comprising dividing said data into a plurality of data portions, wherein prepending said header to said data includes adding said header to each of said portions.

45. The method of claim 40, further comprising providing a storage unit to said host and moving said data from said source to said storage unit as a plurality of data portions.

46. A system for communication between a local host and a remote host that are connected by a network, the system comprising:

a device connected to the network and to the local host, said device including hardware logic for processing data packets,

a protocol processing stack disposed in the local host and configured for creating a communication control block and passing said communication control block to said device, with said communication control block defining a connection between the local host and the remote host,

wherein said device and said protocol processing stack are arranged such that a message transferred between said network and said local host is generally processed by said device instead of said protocol processing stack when said device is holding said communication control block.

47. The host of claim 40, wherein said host is a file server for said network, and said device has a plurality of connections to said network.

48. A device for processing communication between a network and a host having a stack of protocol layers, said device comprising:

hardware logic for categorizing protocol information received as part of a network message packet and creating a summary of said information,

a memory for storing said packet and said summary,

a microprocessor for comparing said summary with a connection context, and for moving said packet without said protocol information to a destination in said host denoted by said context.

49. The device of claim 48, wherein said microprocessor includes a plurality of pipelined processors, with one of said processors configured for transmitting network messages and another of said processors configured for receiving network messages.

50. The device of claim 48, wherein said hardware logic includes a plurality of sequencers corresponding to a plurality of headers of said protocol information.

51. A network interface device for processing communication between a network and a host having a stack of protocol layers, said device comprising:

a storage unit for storing a message packet being transferred between said network and said host, said packet including a sequence of protocol headers and associated data, and

a processor for referencing said headers to a context defining a network connection, and for moving said data according to said context between said storage unit and said host.

52. The network interface device of claim 51, wherein said processor includes a sequencer for validating and summarizing said packet.

53. The network interface device of claim 51, wherein said processor includes a plurality of pipelined microprocessors, with one of said microprocessors configured for transmitting network messages and another of said microprocessors configured for receiving network messages.

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